Line Segment Fitting
Finding Line Segments by Fitting to Contours

- Linear approximation: approximate a segment by a line between its endpoints; split at point with largest error, repeat until approximation is good
Demo Program

• Click on two points on a contour
• See recursive fitting of line segments
MATLAB Programs to Fit Line Segments

function lineSegs = fitLineSegments(E, DTHRESH, MINLENGTH)
% Fit line segments to the edge points in the image E.
% Parameters:
%  DTHRESH: maximum distance between the original curve and its
%    approximation (in pixels)
%  MINLENGTH: minimum length of a line segment (in pixels)
% Output line segments is an array of size Nx4 array, where each row is a
% segment, and is composed of  plx,p1y, p2x,p2y.

function sub_drawLineSegments(lineSeg)
% Draw line segments onto the currently displayed image.
% Line segments are represented by a Nx4 array, where each row is a
% segment, and is composed of
% plx,p1y, p2x,p2y